

IN THE CLAIMS:

Claim 1 (original): An offset measurement method in a processing apparatus which comprises:

a position detection imaging device that images an object to be processed, and
a tool which is installed so as to be offset with respect to said position detection imaging device and processes said object to be processed,

said offset measurement method comprising:

a step of projecting a reference pattern toward said tool at a specified angle of inclination with respect to a measurement direction from a light source that is disposed in a specified position,

a step of measuring a position of said tool based upon said reference pattern projected on said tool,

a step of measuring a position of said position detection imaging device, and

a step of determining an amount of offset between said position detection imaging device and said tool based upon results of said steps of measuring.

Claim 2 (original): The offset measurement method according to Claim 1, wherein said step of measuring said position of said position detection imaging device is accomplished by imaging a specified reference point with said position detection imaging device.

Claim 3 (original): The offset measurement method according to Claim 2, wherein said reference point is a reference member which is disposed in a specified position,

said step of projecting and said step of measuring of said position of said tool are both accomplished in an attitude in which said tool is caused to approach said reference member, and

said step of determining said amount of offset further includes a step of specifying amounts of movement of said position detection imaging device and said tool between an attitude in which said position of said tool is measured and an attitude in which said reference point is imaged by said position detection imaging device.

Claim 4 (original): The offset measurement method according to Claim 3, wherein said step of projecting said reference pattern is performed by projecting said reference pattern on both said tool and said reference member from said light source, and

said step of measuring said position of said tool is accomplished based upon image light from both said tool and said reference member.

Claim 5 (original): The offset measurement method according to Claim 3, wherein said step of measuring said position of said tool includes a step for conducting image light from said tool and said reference member to said position detection imaging device.

Claim 6 (original): The offset measurement method according to Claim 4, wherein said step of measuring said position of said tool includes a step for conducting image light from said tool and said reference member to said position detection imaging device.

Claims 7-12 (canceled).

Claim 13 (original): A method for detecting a position of a tool that processes an object to be processed, said method comprising the steps of:

projecting a reference pattern on said tool and a reference member that is disposed in a specified position, from a light source disposed in a specified position, and

measuring said tool based upon said reference pattern projected on said tool and said reference member.

Claim 14 (canceled).